

GOLF TRAINING AID

Field of the Invention

5 The present invention relates to a golf training aid and especially, but not limited to, apparatus to indicate the shoulder turn during a golf swing.

Background to the Invention

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Many mid-to-high handicap golfers rarely reach their true potential because of an incorrect shoulder turn especially during the takeaway and shoulder turn during the back swing. This deficiency in their swing not only
15 affects iron and wood shots off the fairway, but also inhibits their tee shots. Prior art apparatus to indicate characteristics during a golf swing involved complicated mechanisms which can interfere with the golf swing and, thereby, do not indicate true characteristics of the golf
20 shot. In addition, many prior art devices are not suitable for use by the golfer alone but requires a trained observer to provide them with the feedback.

It is an aim of the present invention to overcome at least
25 one problem associated with the prior art whether referred to herein or otherwise.

Summary of the Invention

30 According to a first aspect of the present invention there is provided a golf training aid for indicating the shoulder turn during a golf swing comprising attachment means for attaching a support member adjacent to a

shoulder of the golfer, the support member having shoulder position indicator means projecting outwardly therefrom and forwardly relative to the golfer.

- 5 Preferably the golf training aid is for indicating the shoulder turn during the takeaway in the back swing.

Preferably the shoulder position indicator means comprises an indicator arm and preferably a single
10 indicator arm. Preferably the indicator arm is an elongate member. Preferably the indicator arm comprises a resilient member. Preferably the resilient member is substantially straight when not subject to a force but flexes when subject to a force. The indicator arm may
15 comprise a section of spring.

Preferably the indicator arm is arranged to be substantially perpendicular to the shoulder of the golfer and preferably perpendicular in a substantially vertical
20 plane relative to the front of the golfer and preferably perpendicular in a substantially horizontal plane and a substantially vertical plane.

Preferably the shoulder position indicator means is
25 adjustably secured to the support member. Preferably the shoulder position indicator means is pivotally secured to the support member. Preferably the shoulder position indicator means can move in at least one plane and preferably in two planes which are preferably
30 perpendicular to each other. Preferably the first plane is substantially horizontal and preferably the second plane is substantially vertical. Preferably the shoulder

position indicator means can move in any plane relative to the support member.

The golf training aid may comprise position retaining means to retain the position of the shoulder position indicator means relative to the support member.

The golf training aid may comprise locking means to lock the position of the shoulder position indicator means relative to the support member.

Preferably the shoulder position indicator means is connected to the support member through a ball and socket joint. Preferably the ball and socket joint comprises retaining or locking means to inhibit or prevent relative movement between the shoulder position indicator means and the support member. Preferably the retaining or locking means comprises a screw.

The shoulder position indicator means may comprise an indicator member. The shoulder position indicator may comprise a first indicator member and a second indicator member. Preferably the first indicator member is supported by the indicator arm which may be white. Preferably the first indicator member is supported by the indicator arm spaced forwardly and outwardly from the shoulder of the golfer. The first indicator member may be substantially spherical. The first indicator member may be coloured and preferably comprises a visually distinctive colour. The first indicator member may be red or yellow.

The second indicator member may be located adjacent to the shoulder of the golfer and preferably is located adjacent to the support member. The second indicator member may be located at the base of the shoulder position indicator means. The second indicator member may be substantially spherical or may be a sleeve. The sleeve may locate around the base of the indicator arm adjacent to the shoulder of the golfer. The second indicator member may be coloured and preferably comprises a visually distinctive colour. The second indicator member may be red or yellow.

The support member may comprise a pad and preferably comprises a flexible pad. Preferably the support member comprises a shoulder pad and more preferably a tailored shoulder pad which is shaped to cooperate with a portion of the shoulder of the golfer. Preferably the support member locates over the forward shoulder of the golfer relative to the swing, for example the left shoulder for a right handed golfer and the right shoulder for a left handed golfer.

The attachment means may comprise a harness mechanism. The harness mechanism may comprise a first harness member and may further comprise a second harness member. The or each harness member preferably comprises a flexible material and preferably a resilient material. The or each harness member may comprise an elasticated material. The length of the or each harness member may be adjustable. The or each harness member may comprise release means in order to releasably secure the harness mechanism to the golfer.

One end of the first harness member may be secured to the support member. The other end of the first harness member may be secured to the second harness member. The harness mechanism may comprise two first harness members, one of which may be located on the front of the golfer, the other of which may be located on the rear of the golfer.

Preferably the or each first harness member is arranged, in use, to urge the support member against the shoulder of the golfer.

Preferably the second harness member is arranged, in use, to locate around the body of the golfer and preferably around the torso of the golfer.

According to a second aspect of the present invention there is provided a method of indicating the shoulder turn of a golfer during a golf swing comprising securing shoulder position indicator means adjacent to a shoulder of the golfer in order for the shoulder position indicator means to project outwardly and forwardly relative to the shoulder of the golfer.

Preferably the method indicates the shoulder turn during the takeaway in the back swing.

Preferably the method comprises moving the shoulder position indicator means to be substantially perpendicular to the shoulder of the golfer in at least a horizontal plane and preferably in both a horizontal and vertical plane.

Preferably the method comprises securing the shoulder position indicator means to a golfer through a harness mechanism.

5 Brief Description of the Drawings

The present invention will now be described, by way of example only, and with reference to the drawings that follow in which:

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Figure 1 a front view of a golfer performing an incorrect back swing.

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Figure 2 is a front view of a golfer wearing a golf training aid performing a correct takeaway at the midway position of the back swing.

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Figure 3 is a front view of a golfer wearing a golf training aid correctly addressing the golf ball.

Figure 4 is a schematic plan view of a shoulder position indicator in a correct address position.

25 Figure 5 is a schematic plan view of a shoulder position indicator in different positions.

Description of the preferred embodiments

30 A typical back swing associated with many mid-to-high handicap golfers may comprise lifting only the arms, as shown in Figure 1. Such a back swing does not produce any significant resistive body coil which is generally required for long shots and consistent performance. In

addition, such an incorrect back swing may result in the swing being steep and, thereby, likely to produce an indifferent form of shot. Whilst the Figures and description relate to a right handed golfer it will be appreciated that the golf training aid 10 could be easily adapted for a left hand golfer.

As shown in Figure 2, during the midway stage of the takeaway phase in the back swing the golfer rotates the shoulders by approximately 45° relative to the ball to target line. Accordingly, on completion of the shoulder rotation (90°) resistive body coil is produced, which when released on the down swing will help to produce a powerful and more accurate golf shot.

In a correct address position, the shoulders of the golfer are square and face forwards in order to be parallel to the ball to target line, as shown in Figure 3. It is important for the golfer to align correctly in the address position i.e. so feet, hips and shoulders are parallel to the ball to target line.

As shown in Figure 2 and Figure 3, the golf training aid 10 comprises shoulder position indicator means. The shoulder position indicator means comprises an indicator arm 12 in the form of an elongate projecting arm. The shoulder position indicator means comprises a single indicator arm 12 which thereby results in the golf training aid being mechanically simple and with few parts that may fail. In addition, a single indicator arm makes the golf training aid easier to use and provides a single source of feedback which is thereby easy to interpret. The indicator arm is secured on and projects outwardly and

forwardly from a support member in the form of a shoulder pad 14. The shoulder pad 14 comprises a tailored flexible pad which is shaped to locate and cooperate with the front shoulder of the golfer.

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The indicator arm 12 preferably comprises a flexible member or a resilient member in order to prevent accidents, for example the indicator arm 12 may comprise a section of a flexible spring. The indicator arm 12 is
10 thereby rigid enough to be normally projecting but when pressed is able to flex.

The indicator arm 12 is secured to the shoulder pad 14 through a ball and socket joint. The ball and socket
15 joint enables the indicator arm to be initially positioned relative to the golfer in order to be substantially perpendicular to the shoulder of the golfer. In addition, the ball and socket joint enables the golf training aid to be adjusted in order for golfers of differing physiques to
20 use the golf training aid. The ball and socket joint incorporates a locking screw in order for the indicator arm 12 to be retained or locked in position relative to the shoulder pad 14.

25 In use, the indicator arm 12 is initially adjusted in both vertical and horizontal planes. In the correct address position, as shown in Figure 3 and Figure 4, the indicator arm 12 is adjusted in order to be approximately perpendicular to the ball to target line 22. In this
30 position, the feet, hips and shoulders of the golfer are parallel to the ball to target line 22. The adjustment of the indicator arm 12 in the horizontal plane enables the indicator arm 12 to be positioned approximately

perpendicular to the ball to target line 22. Similarly, adjustment of the indicator arm 12 in the vertical plane enables the indicator arm 12 to be substantially parallel to the ground. Once positioned, the indicator arm 12 is
 5 locked in position by the locking screw in the ball and socket joint in order to maintain the same position throughout the period of use, for example the practice session.

10 The shoulder pad 14 secures to the golfer through a harness mechanism comprising a first harness member 16 and a second harness member 18. One end of the first harness members 16 attaches directly to the shoulder pad 14 whilst the other end of the first harness member 16 attaches to
 15 the second harness member 18. The second harness member 18 locates around the body of the golfer, and preferably around the torso of the golfer and is positioned such that the first harness member 16 urges the shoulder pad 14 downwards on to the golfer's shoulder in order for the
 20 shoulder pad 14 to move with the golfer's shoulder. Similarly the second harness member 18 may be connected to the shoulder pad 14 through a rear first harness member at the rear of the golfer. The second harness member 18 and the or each first harness member 16 preferably include a
 25 release mechanism in order for the golf training aid to be easily removed or secured to the golfer. For example, the harness members 16, 18 may include a section of velcro adjacent to one or each end of the harness members 16, 18.

30 The harness members 16, 18 preferably comprise a resilient material, for example an elasticated material. Accordingly, the harness mechanism is adaptable and can be arranged so as to not significantly interfere with the

golf swing or movement of the golfer. In addition, the harness mechanism enables the golf training aid 10 to be secured comfortably to golfers of differing physiques.

5 The shoulder position indicator means comprises first and second indicator members in the form of a brightly coloured spheres 20, 21, which are preferably red or yellow. The spheres 20, 21 are intended to act as a focal point, increasing the visual awareness with regard to the
10 position of the indicator arm 12 during the execution of the golf swing and especially during the takeaway in the back swing.

 The golf training aid 10 may be used without a golf
15 ball in order to instil the necessary muscle memory to develop a full (90°) and repeatable shoulder turn on the back swing and especially a consistent takeaway. The golf training aid will indicate whether the golfer is under rotating or over rotating during the back swing through
20 the position of the shoulder position indicator means. Accordingly, the golf training aid 10 can be used to demonstrate when a consistent back swing incorporating a full shoulder turn has been achieved.

25 As shown in Figure 5, in a full shoulder turn on the back swing the indicator arm will be in the position indicated by position 30 relative to the initial correct address position 32. As can be seen, the indicator arm at position 30 is substantially perpendicular to the
30 indicator arm at position 32. Accordingly, this indicates a 90° shoulder turn. Alternatively, if the golfer under rotates then the indicator arm may be at position 34. Similarly, if the golfer over rotates then the indicator

arm may be at position 36. At the end of the correct complete back swing it can also be seen that the indicator arm is substantially parallel to the ball to target line 22, being aligned parallel to the ground and indicating the execution of an overall level shoulder turn.

The golf training aid 10 may be used by the golfer whilst alone since the indicator arm 12 and spheres 20, 21 will remain in the vision of the golfer during substantially the full golf swing. Alternatively or additionally, the golf training aid may be viewed by an observer to provide feedback to the golfer regarding the golf swing.

If initially used without a golf ball the golfer may progress in to using the golf training aid 10 with a golf ball and to progress until a correct takeaway and shoulder turn has been achieved such that the golfer no longer requires the feedback from the golf training aid 10 and can strike the ball correctly with or without the use of the golf training aid 10.

Finally the golf training aid 10 will provide the golfer with feedback in relation to the position of the shoulders following impact of the ball. This results from the indicator arm projecting forwardly from the golfer and, thereby, will always remain visible to the golfer. Indicators located to the rear or side of the golfer may not remain visible during the full golf swing. In the ideal finishing position, the shoulders should be facing the target and, again, perpendicular to the ball to target line. The indicator arm 12 will enable the golfer to obtain feedback as to whether there is under rotation or

over rotation on the down swing after impact. The indicator arm will thereby demonstrate whether the shoulders are open or closed in the final resting position.

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From the address position, one of the most difficult moves is the initial takeaway movement of the golf club in the back swing. What happens during this stage tends to dictate the final position in the back swing, which in
 10 turn influences the quality of the resulting golf shot. When the golfer and club are set in a good relative position at the top of the back swing, the subsequent downswing and quality of ball strike tends to be much more consistent. Most of the problems arise at the start
 15 of the back swing when initial incorrect arm movement can dictate too much, often resulting in an improper set position at the top of the back swing. In contrast, in the one piece movement technique, the arms merely act as followers at the start, and throughout the execution of
 20 the back swing. This one piece movement is used in conjunction with the apparatus of the present invention.

A description of the one piece movement from the address position to the top of the back swing now follows, this
 25 being applicable to a right-handed golfer. From the address position (shoulders parallel to ball-to-target line-bttl), simultaneously rotate and push the left shoulder along an imaginary line which lies inside of, and is parallel to the bttl, and also extends through the ball
 30 part of the right foot. The movement is completed when the yellow indicator member 21 at the base of the white indicator arm 12 finishes over the ball part of the right foot. During the initial part of the one piece movement

the indicator arm 12 will be orientated approximately parallel to the ground. Only at the final stage of the movement, when the full 90° shoulder turn is achieved and the left shoulder position coincides with the ball part of the right foot, will the indicator arm 12 orientation be inclined more markedly upwards due to the final rotation of the left shoulder. Note an inherent part of the one piece movement ensures that plenty of width is maintained during the takeaway phase of the back swing.

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Consider the finish of the one piece movement in the final set position at the top of the three-quarter back swing. Looking in plan on top of a right-handed golfer, the white indicator arm 12 will be orientated parallel to the bttl, and the corresponding resting position of the left arm will be correctly set inside the bttl. This set-up position at the top of the back swing forms the first part of the ideal swing path i.e. from in-to square to-in. Note in the set position at the top of the three-quarter back swing, the golfer's head is set in an ideal position directly behind the golf ball. A common fault that occurs with many amateur golfers relates to their chins touching or catching the left shoulder during execution of the back swing. Correct application of the one piece movement in the back swing will help to irradicate the latter fault. Note employing the one piece movement together with the present invention make it very easy to maintain a constant spine angle throughout the swing. A further benefit of executing the one piece movement is that more weight will be automatically distributed to the right foot at the top of the back swing, which should subsequently be transferred to the left foot during the downswing through impact.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and
5 which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification
10 (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

15 Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly
20 stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the
25 foregoing embodiment(s). The invention extend to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so
30 disclosed.